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GUS 0383

Copy of 7

19 August 1959

MEMORANDUM FOR THE RECORD

SUBJECT: Project GUSTO

1. On 6 August, a meeting was convened at Project Headquarters to discuss compatability and possible areas of conflict between the GUSTO camera installation and GUSTO aircraft electronic (radar) shielding. Meeting was attended by:

25X1A5a1

25X1A

25X1A9a

[REDACTED]
[REDACTED]
Perkin-Elmer
Perkin-Elmer
Project Headquarters
Project Headquarters

2. The primary area of possible conflict appears to center around the camera port glasses. Discussion covered size, shape and location of windows, as well as composition (ie., fused quartz vs. glass) for both the Lockheed and Convair proposal.

a. P&E had previously planned to gold plate the front surface to the second layer of the camera port to reduce infra-red transmission. This plating has an extremely high visible transmission characteristic albeit providing required filtering. [REDACTED] stated that such a 25X1A5a1 coating would concurrently minimize radar return provided surface reflectivity falls within certain (to be determined) ohms per square surface.

b. The second major item of interest was the difference between discontinuity of energy (radar return) bounced from the skin of the 25X1A5a1 aircraft and the outer edges of the depth of the depression cut into the fuselage to accommodate the camera port glass. [REDACTED] stated that such sharp differences in depth (measurement as yet undetermined) makes specular scattering of energy difficult. Several suggestions were discussed as a means of minimizing returns from these edges:

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(1) Depth of depression will determine extent of problem.

(2) Front surface coating of camera port with metal screen or grid might reduce return.

(3) Possibility of sliding metal doors over camera ports during times cameras not in operation. In addition to eliminating discontinuity of energy presented by returns from different materials (ie., aircraft skin and quartz/glass) doors would:

(a) Protect windows during take-off and landing.

(b) Protect any coating of lenses and camera ports; coating would tend to ablate due to heat.

(c) Provide some insulation to camera port glass and/or camera and film when cameras not in use.

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3. To determine reflective characteristics of Perkin-Elmer's gold coating, [REDACTED] asked that he be provided a sample for test purposes. It was agreed that P&E would provide a 10-12inch gold coated glass (or quartz if available) for such testing. Delivery of sample: approximately 10 September.

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4. Conclusion: Discussion of mutual problem areas above, plus tests to be conducted by [REDACTED] will probably result in a camera port which will produce minimum radar reflectivity.

25X1A9a



Major

USAF

RSQ:bm

1 - AC/DPD

2 - AC, OPs Br, DPD

3 - Ch, Tech Analysis Staff

25X1A9a

4 - Ch, R&D

6 - Ops chron

7 - GUS chron